EXHIBIT 4

IN THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF TEXAS TYLER DIVISION

Blue Spike, LLC,	§ 8
Plaintiff,	§ CASE NO. 6:12-cv-499-MHS-CMC
v.	\$ LEAD CASE
Texas Instruments, Inc., et al.,	§ Jury Trial Demanded
Defendants.	5 & &

TECHNICAL EXPERT REPORT OF YANNIS PAPAKONSTANTINOU, PH.D. REBUTTAL OF INVALIDITY REPORTS BY DR. JOHN STRAWN AND DR. SCHUYLER QUACKENBUSH

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	UDIBLE MAGIC'S PRIOR ART DOES NOT ANTICIPATE	
	U.S. Patent No. 5,918,223 (Blum) and Related Software	
	1. U.S. Patent No. 5,918,223 (Blum)	
	2. SoundFisher	
	3. Digital Generations Product	
	4. "Audio Databases with Content-Based Recognition"	
	5. Muscle Fish's "Illustra/Informix AIR DataBlade"	
	6. Muscle Fish's "Conti" System	
В.	, ,	
	1. U.S. Patent 6,834,308	
	2. Clango/Amadeus/Wired Air Software	
_	THER REFERENCED PRIOR ART DOES NOT INVALIDATE	
A.	U.S. Patent 5,437,050 (Lamb)	
В.	U.S. Patent 5,913,205 (Jain)	
C.	U.S. Patent 7,194,752 (Kenyon)	
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A.	Whether the invention proceeded in a direction contrary to accepted who field	
	the field.	
B.	Whether there was long felt but unresolved need in the art that was sa	
by	the invention	33

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C.	Whether others had tried but failed to make the invention	53
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Q. Would you call that a wrapper?

A. Yeah, it's a kind of wrapper.

[Wold Deposition, 164:9-22].

68. It also appears that the MFCBR library embodied the teachings of the '223'

Patent, at least in terms of audio analysis, comparison, and storage. Mr. Blum testified

A... But I believe the functionality itself that's embodied in these files is — you know, at least the core functionality that's in this, the way in which we analyze, the way in which we store and the way in which we compare fingerprints is the same or substantially the same.

Q. When you say "the same," you are saying the same as the '223 patent?

A. Takes 223.

Q. You're right. So if there turns out to be another file or part of the code that we didn't include here, is it still your testimony that that then would — the core technology essentially at Audible Magic now is embodied in this '223 patent?

A. Core technology is embodied — Yes, I believe that's true.

[Blum Deposition, 191:1-16].

69. When asked whether the '223 patent covered Audible Magic's core technology, the MFCBR library, Mr. Wheaton was concerned about making comparisons between the legal terminology of the '223 Patent and the software. But I believe that Mr. Blum's testimony about the similarities between the '223 Patent and SoundFisher further indicates that SoundFisher's analysis, comparison and storage of audio samples embodied the '223 Patent's teachings. Mr. Wheaton testified to the following:

Q. Does this patent represent — or does this patent embody the core technology you developed at Muscle Fish? Ms. Caridis: Objection. Form. The Witness: Umm, not exactly. I mean, I don't want to get myself in trouble by saying what is our core technology and does it embody this? I

mean, it is certainly — it represents some of the fundamental pieces of the core technology that we developed to do analysis and storage and comparison of audio.

. . .

Q. But to the best of your recollection, seeing this, the fingerprinting that Muscle Fish was doing is embodied in this patent?

. . .

A. Does it — I mean, I believe this patent describes the method — you know, the way patents do, which is very legalese. You know, I'm not a lawyer. But it has to describe, you know, what we're trying to do in terms of analyzing sound and creating fingerprints. And I don't — out of all the pieces that you need to do — including what it says here: "Analysis, storage, retrieval, and segmentation."

So I would assume that it has descriptions of all of those parts in here. And I would think that those are the essential parts of the core technology.

[Wheaton Deposition, 170:25-171:18].

70. I believe that the pertinent technology driving the SoundFisher program, developed originally at Muscle Fish and later acquired by Audible Magic, is found in the MFCBR library. And I believe that the MFCBR library embodies the analysis, comparison, and storage teachings of the '223 Patent.

C. Audio Databases with Content-Based Retrieval

- 71. I have reviewed the article titled "Audio Databases with Content-Based Retrieval." The authors of the patent are Thom Blum, Douglas Keislar, James Wheaton, and Erling Wold. The article is also attributed to Muscle Fish LLC.
 - 72. The article is divided into three sections:

In the first section, we will offer a brief historical perspective by reviewing some related research, mostly in the areas of computer music and digital audio signal processing. Next, we will present our analysis and classification algorithms and show examples of some

Generations code.

- 82. It appears that Muscle Fish entered into a consulting arrangement with a company called Digital Generations in which Muscle Fish was contracted to produce a demonstration intended to identify advertisements playing on the radio. [Keislar Deposition, pgs. 28-33].
- 83. During Muscle Fish's consulting engagement with Digital Generations, Muscle Fish appears to have produced some signal matching source code. That source code was not reduced to product form, and Digital Generations did not implement that code. [Keislar Deposition, 31:21-32:13.].
- 84. The source code Muscle Fish created for Digital Generations did not incorporate the use of MFCC's as taught in the '223 Patent and utilized in the SoundFisher program. [Keislar Deposition, 105:1-107:3].

F. Audible Magic's Clango/Amadeus/Wired Air Software

- 85. Audible Magic's Clango software compares a fingerprint of a song to fingerprints in a database and displays song details if a match is found. The Clango software appears to be representative of the teachings in U.S. Patent 6,834,308. The Clango software also appears to be powered by the teachings of '223 Patent, or more specifically, the MFCBR library that Audible Magic received when it acquired Muscle Fish.
- 86. This belief is supported by the testimony of Thomas Blum, one of the developers of the Clango software. Mr. Blum's testified as follows:
 - Q. Okay. So I want to hand you a patent. I'm handing you patent U.S. 6834308, Exhibit 10. Are you familiar with this patent? You can take a look at it there for a moment. A. Somewhat familiar with it, yes.

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believe the premise that the similarity in language between patents-in-suit and prior art references is faulty. Audible Magic's expert has not even shown as a threshold matter that the terms are used in both art references. For this reason and those already discussed, I am disinclined to opine that the alleged similarity in terms or nomenclature is indicative of prior inventorship by the employees of Muscle Fish.

Dated: May 11, 2015

Yannis Papakonstantinou

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